

WHAT IS CLAIMED IS:

1. A method of introducing a flowable orthopedic calcium phosphate cement composition to a target bone site, said method comprising:  
5 delivering said flowable orthopedic cement composition to said target bone site in conjunction with vibration.
2. The method according to Claim 1, wherein said target bone site is part of a reduced fracture.
- 10 3. The method according to Claim 1, wherein said target bone site comprises cancellous bone.
4. The method according to Claim 3, wherein said vibration provides for  
15 controlled penetration of said flowable cement composition into said cancellous bone without use of substantial pressure.
5. The method according to Claim 4, wherein penetration of said cement into said cancellous bone stops substantially simultaneously with cessation of said  
20 vibration.
6. The method according to Claim 3, wherein said method further comprises aspirating marrow from said cancellous bone.
- 25 7. The method according to Claim 3, wherein said target bone site comprises cancellous bone of a vertebral body.
8. The method according to Claim 1, wherein said vibration is provided by applying vibratory force to a flowable composition introduction element of a  
30 delivery device for said cement.

9. The method according to Claim 8, wherein said flowable composition introduction element is a needle.

5 10. The method according to Claim 9, wherein said delivery device comprises a vibratory element for vibrating said needle.

11. A method of introducing a flowable orthopedic cement composition into a vertebral body, said method comprising:

10 delivering said flowable calcium phosphate cement composition to said target bone site in conjunction with vibration.

12. The method according to Claim 11, wherein said method further comprises removing marrow from said vertebral body.

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13. The method according to Claim 11, wherein said vibration provides for controlled penetration of said flowable cement composition into said cancellous bone without use of substantial pressure.

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14. The method according to Claim 13, wherein penetration of said cement into said cancellous bone stops substantially simultaneously with cessation of said vibration.

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15. The method according to Claim 11, wherein said vibration is provided by applying vibratory force to a flowable composition introduction element of a delivery device for said cement.

16. The method according to Claim 15, wherein said flowable composition introduction element is a needle.

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17. The method according to Claim 16, wherein said delivery device comprises a vibratory element for vibrating said needle.
18. A system for delivering an orthopedic cement to a target bone site, said  
5 system comprising:  
    (a) a delivery device for said cement comprising a flowable composition introduction element; and  
    (b) a vibratory element for vibrating said flowable composition introduction element.
- 10 19. The system according to Claim 18, wherein said flowable composition introduction element is a needle.
20. The system according to Claim 18, wherein said vibratory element is  
15 separate from said delivery device.
21. The system according to Claim 18, wherein said vibratory element is a component of said delivery device.
- 20 22. The system according to Claim 18, wherein said system further comprises a calcium phosphate cement composition.
23. A device for delivering an orthopedic cement to a target bone site, said device comprising:  
25      (a) a flowable composition introduction element; and  
        (b) a vibratory element for vibrating said flowable composition introduction element.
24. The device according to Claim 23, wherein said flowable composition  
30 introduction element is a needle.

25. The device according to Claim 18, wherein said device is loaded with an orthopedic cement composition.
- 5 26. A kit for delivering an orthopedic cement to a target bone site, said kit comprising:
- (a) a delivery device for said cement comprising a flowable composition introduction element; and
  - (b) a vibratory element for vibrating said flowable composition
- 10 introduction element.
27. The kit according to Claim 26, wherein said flowable composition introduction element is a needle.
- 15 28. The kit according to Claim 26, wherein said vibratory element is separate from said delivery device.
29. The kit according to Claim 26, wherein said vibratory element is a component of said delivery device.
- 20 30. The kit according to Claim 26, wherein said kit further comprises an orthopedic cement composition.